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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/344,826	06/25/1999	KOK S. CHEN	P2290	9502

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EXAMINER

BRINICH, STEPHEN M

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/344,826

Applicant(s)

CHEN ET AL.

Examiner

Stephen M. Brinich

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-59 is/are pending in the application.
- 4a) Of the above claim(s) 44-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5,7-11,13,15-19,21 and 23-43 is/are rejected.
- 7) ☒ Claim(s) 4,6,12,14,20 and 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 2-3, 5, 7-11, 13, 15-19, 21, & 23-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Judice.

Re claims 2, 5, 7, 9-10, 13, 15, 17-18, 21, 23, & 24-25, Judice discloses (column 5, lines 28-46) a halftone arrangement in which a halftone signal for a first frame is generated in a conventional manner by applying a stored spatial halftoning array to an image (first halftoning technique), and a halftone signal for a subsequent frame is generated by selectively identifying the halftone pixels which are different from those in the preceding frame and applying the stored spatial halftoning array to those pixels (second halftoning technique). Pixels are halftone processed using the respective selection parameter for that halftone technique (i.e. the selection parameter for the first halftoning technique is "all pixels"; the selection parameter for the second halftoning technique is "all pixels that differ from the corresponding pixel of a previous frame"). This parameter is non-locational (that is, it is applied to all pixels regardless of pixel location).

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Re claims 3, 11, & 19, the results of the two halftone techniques are successively output (first the result of the first frame halftone processed by the first halftoning technique, followed by subsequent frames halftone processed by the second halftoning technique).

Re claims 8, 16, & 24, the first and second halftone techniques use the same halftone method (differing in that they are applied to different sets of pixels).

Re claims 26, 32, & 38, the resulting halftone frames generated from input images via these two halftoning arrangements are output as corresponding frames of an output image.

Re claims 27, 33, & 39, Judice discloses a halftoning process applied to the entire image, which inherently requires the starting of the halftone process with the first pixel thereof.

Re claims 28-29, 34-35, & 40-41, the second halftoning technique of Judice operates specifically upon those pixels that differ from corresponding pixels in the previous image. Thus, the starting point of the halftone technique applied to a second image (readable on "after a certain number of input images", with the "certain number" being one) would be offset from the starting point of the halftone technique applied to the first

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image in any case in which the first pixels of the two images are identical.

Re claims 30-31, 36-37, & 42-43, Judice discloses (Figures 2-3) a tiled spatial halftone pattern.

Allowable Subject Matter

3. Claims 4, 6, 12, 14, 20, & 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

Re claims 4, 12, & 20, the art of record does not teach or suggest the recited repeat sequencing of halftone techniques.

Re claims 6, 14, & 22, the art of record does not teach or suggest the recited real-time halftone determinations.

Response to Arguments

5. Applicant's arguments filed 5/24/05 have been fully considered but they are not persuasive.

Re claims 2, 10, & 18 Applicant argues (Response filed 5/24/05: page 17, line 10 - page 18, line 2) that the art of record (Judice) does not teach or suggest the recited "halftoning the input image by applying one of the at least two halftone techniques to the plurality of pixels in the input

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image" [emphasis in original]. In particular, Applicant argues that Judice differs from this recitation in that Judice teaches the selective application of one of the two Judice halftoning techniques (the one applied to frames after the first) to only certain pixels.

However, the present claim language does not require that **every** pixel contained in the input image is has a halftoning technique applied to it. The "plurality of pixels" of which an image is comprised may be read on a subset of the total (i.e. those pixels to which a halftoning technique is later applied).

Even if it is assumed for the sake of argument that the present claims require every pixel contained in the input image to have a halftoning technique applied to them, Examiner maintains that the selection of certain pixels for halftone thresholding in Judice is itself part of the "halftoning technique". Thus, even those pixels which are not subjected to a halftone thresholding process in Judice still have the halftoning technique applied to them. (i.e. A decision is taken for each pixel whether or not to apply further halftone processing; for some pixels, the halftone technique is completed at this point; for others, the halftone technique requires further processing.)

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Re claims 3, 5, 7-9, 11, 13, 15-17, 19, 21, & 23-43, Applicant argues (Response filed 5/24/05: page 18, line s 3-10) that these claims are allowable for the same reasons as parent claims 2, 10, & 18.

Applicant's arguments re claims 2, 10, & 18 are addressed above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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7. Any inquiry concerning the contents of this communication or earlier communications from the examiner should be directed to Stephen M. Brinich at 571-272-7430.

Any inquiry relating to the status of this application or proceeding or any inquiry of a general nature concerning application processing should be directed to the Tech Center 2600 Customer Service center at 571-272-2600 or to the USPTO Contact Center at 800-786-9199 or 703-308-4357.

The examiner can normally be reached on weekdays 7:00-4:30, alternate Fridays off.

If attempts to contact the examiner and the Customer Service Center are unsuccessful, supervisor David Moore can be contacted at 571-272-7437.

Faxes pertaining to this application should be directed to the Tech Center 2600 official fax number, which is 571-273-8300 (as of July 15, 2005).

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Hand-carried correspondence may be delivered to the
Customer Service Window, located at the Randolph Building, 401
Dulany Street, Alexandria, VA 22314.

Stephen M Brinich
Examiner
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smb *smb*
July 25, 2005



THOMAS D.
~~TOOMAY~~ LEE
PRIMARY EXAMINER